Surveillance and Broadcast Services ADS-B Program

Federal Aviation Administration

Alaska Industry Council

Jere Hayslett, SBS WSA Manager

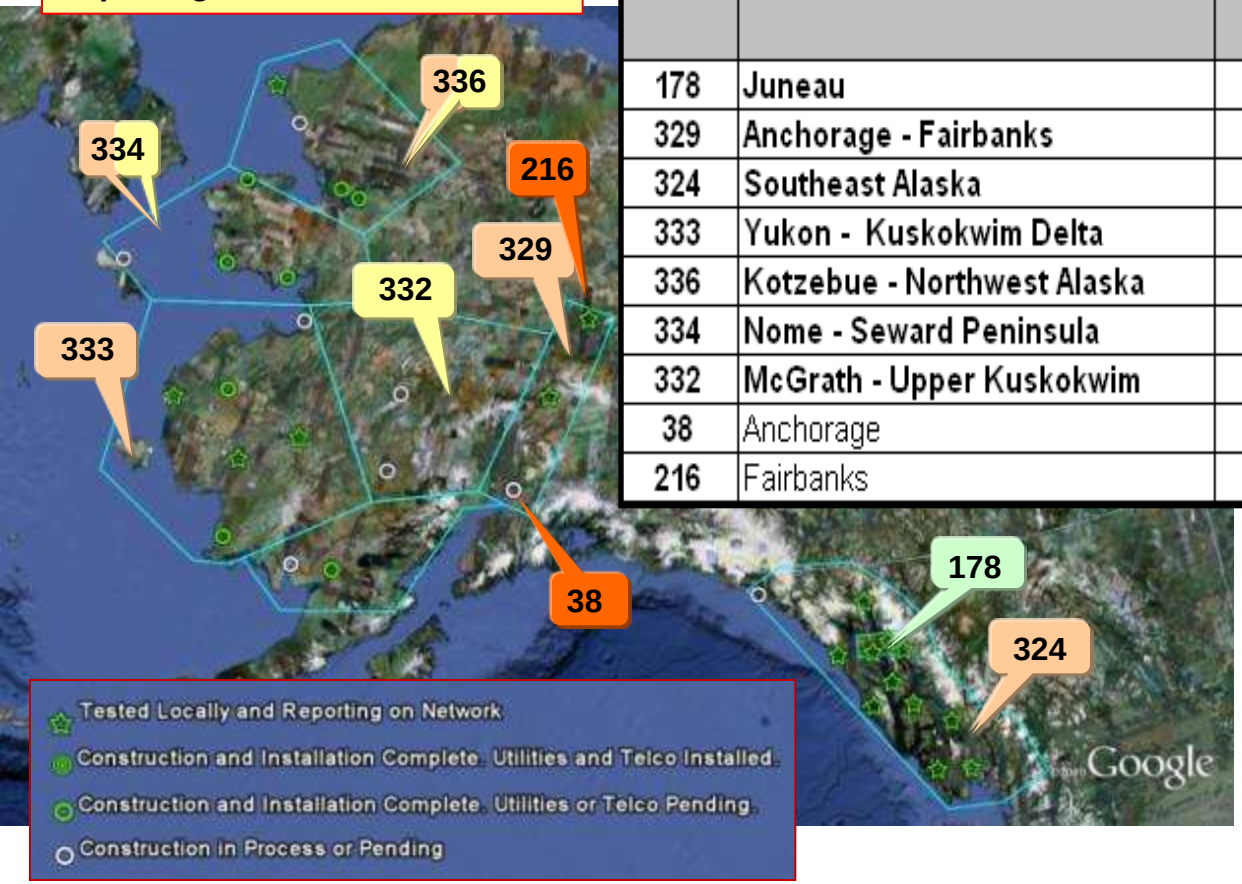
December 8, 2010

Agenda

- **SBS WSA Update *(Jere Hayslett)***
- **Short Field Runway Markings *(Matthew Freeman)***
- **2010 Arctic Aviation Conference success and Arctic Aviation Initiative *(Nils Andreassen)***

ADS-B Status – Alaska

Civil Works Complete: 25
Civil works with Telco and Power: 17
Reporting on Network: 17



SV	SV Name	SV Type	Essential Initial Operating Capability (IOC)	Critical Initial Operating Capability (IOC)
178	Juneau	En Route	Complete	Complete
329	Anchorage - Fairbanks	En Route	Dec-10	Jan-11
324	Southeast Alaska	En Route	Dec-10	Jan-11
333	Yukon - Kuskokwim Delta	En Route	Mar-11	Mar-11
336	Kotzebue - Northwest Alaska	En Route	Mar-11	Dec-11
334	Nome - Seward Peninsula	En Route	Mar-11	Dec-11
332	McGrath - Upper Kuskokwim	En Route	Oct-11	Dec-11
38	Anchorage	Terminal	Dec-12	Mar-13
216	Fairbanks	Terminal	Dec-12	TBD

Complete
FY 11 completion
FY 12 completion
FY 13 completion

Alaska Deployment Schedule

- **Juneau SV 178 (includes Williams Mtn) – Commissioning Dec 2010**
- **SE Alaska SV 324 – Commissioning Jan 2011**
- **ANC-FAI SV 329– Commissioning Mar-Apr 2011**
- **YK Delta SV 333 – Commissioning Apr - May 2011**

Southeast Alaska Status

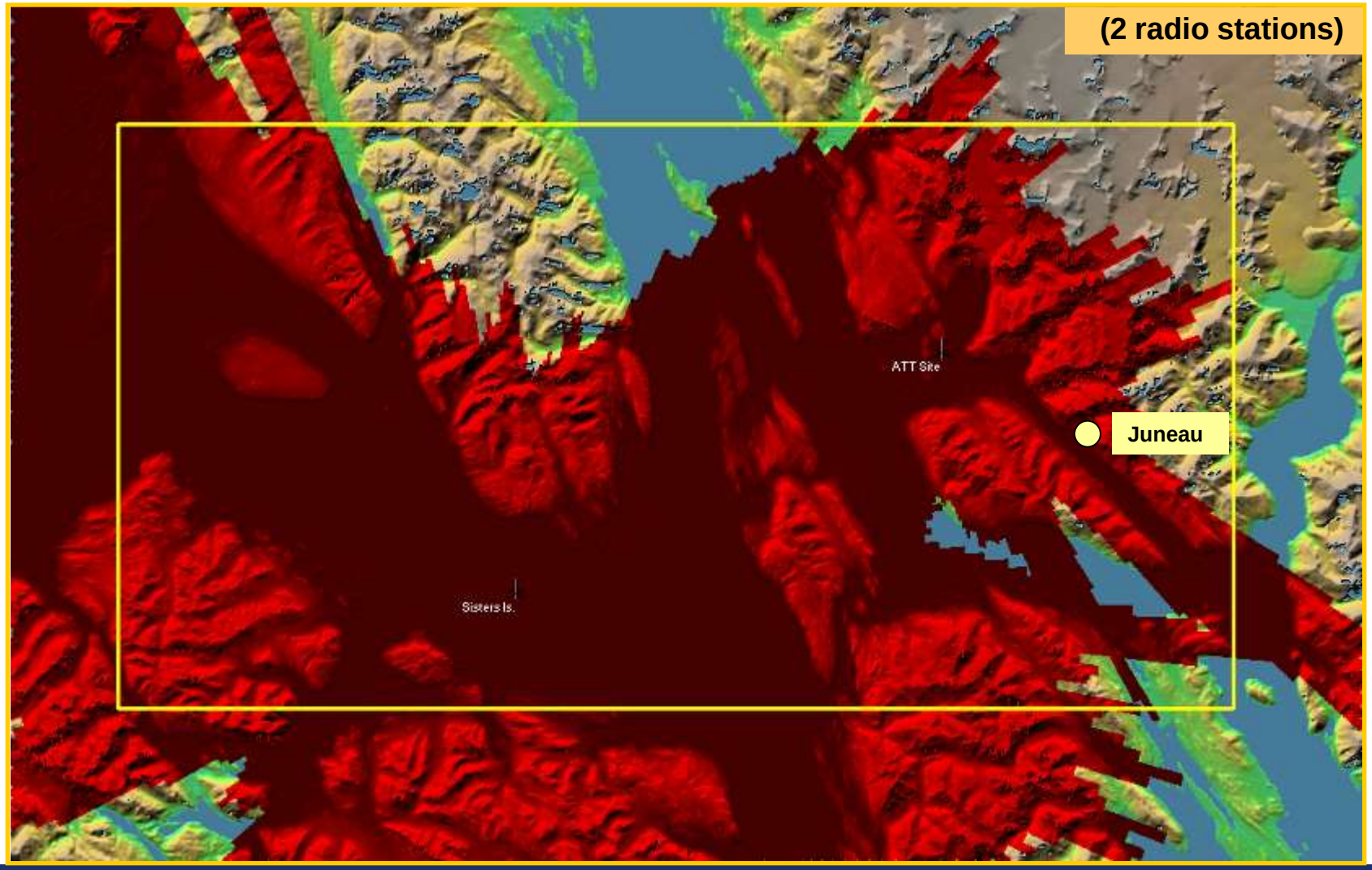
➢ ADS-B – Juneau SV 178

- ➢ Flight Inspection data analysis complete with Williams Mountain added - Dec 6
- ➢ MEARTS Build 10.05 adapted with Williams Mountain - Dec 7
- ➢ SV-178 approved for operational use by ZAN AT- Dec 8
- ➢ JNU ADS-B SV-178 Operational Readiness Demonstration (ORD) for critical and essential services - Dec 22

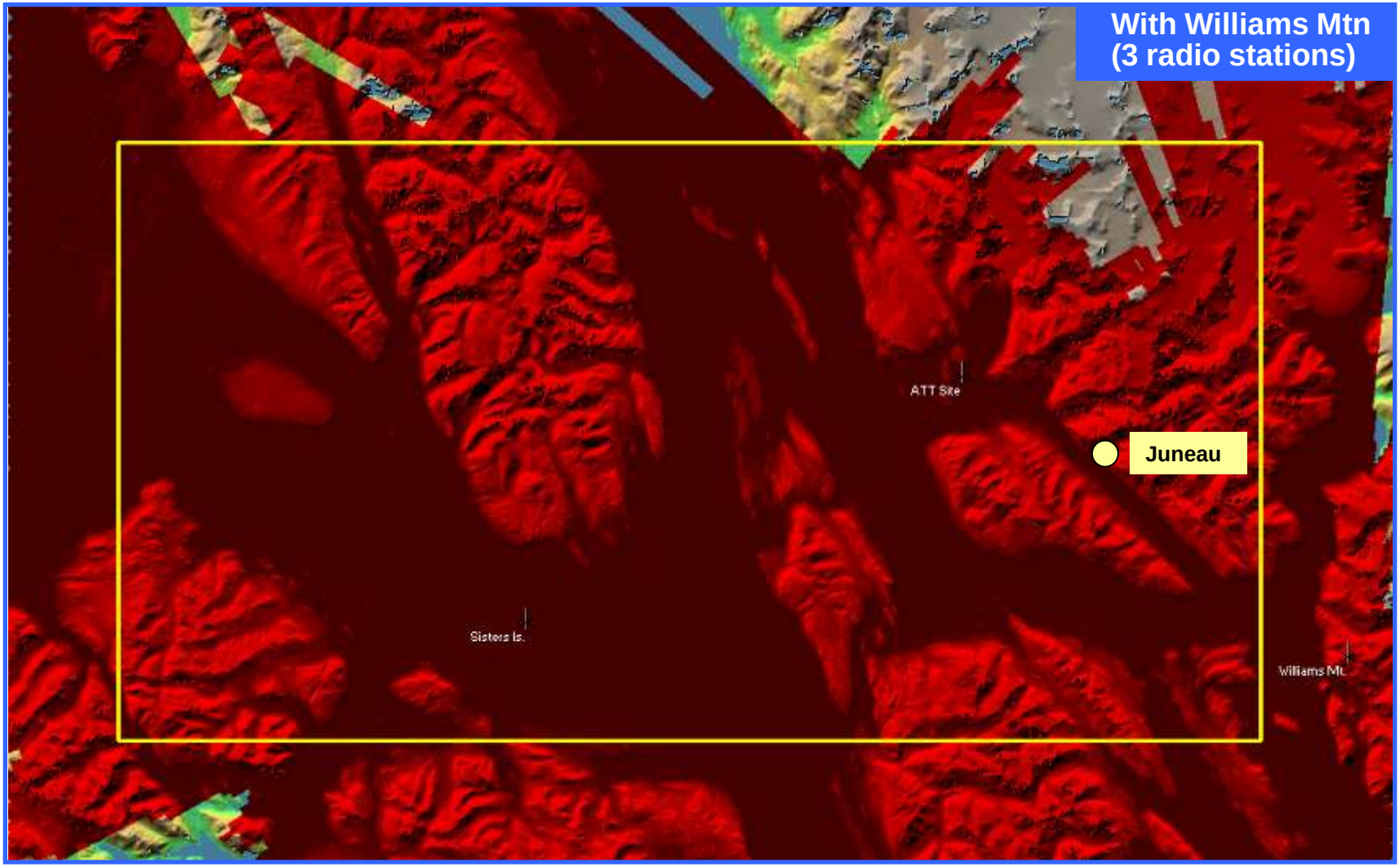
➢ Juneau WAM

- ➢ Flight Inspection of WAM 14 Radio Unit (RU) sites with new output coverage volume and ceiling to FL200 begins Dec 8
- ➢ Flight Inspection data analysis complete - Jan 14
- ➢ JNU WAM 14 Radio Unit (RU) sites Initial Operating Capability (IOC) – Jan 14
- ➢ JNU WAM 14 Radio Unit (RU) sites Operational Readiness Demonstration (ORD) - Feb 14

Previous Juneau ADS-B Coverage
(5,000 ft ASL without Williams Mtn)



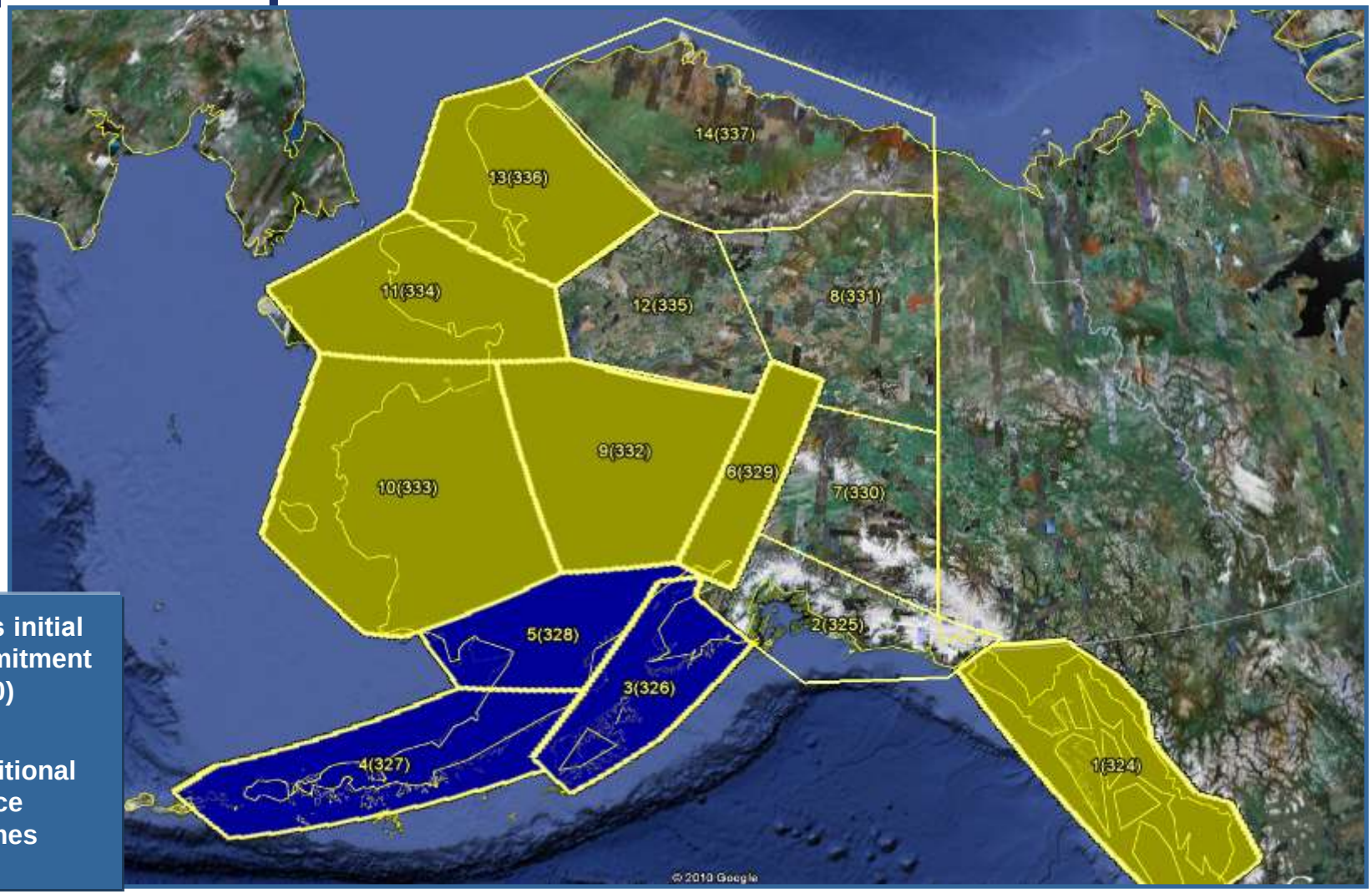
Dec 2010 Juneau ADS-B Coverage
(5,000 ft ASL with Williams Mtn)



IFR Airport Status – AWOS (Weather)

- **Brevig Mission – Communication work is in progress. The facility may need building/floor upgrade due to water damage. Completion expected June 2011.**
- **White Mountain - All site work is complete. Communication work will be completed in the next 2 months. Completion expected June 2011.**
- **Noorvik - All site work is complete by TSSC. Communication work will be completed in the next 2 months. Completion expected June 2011.**
- **Elim - The civil construction work was completed in Oct 2010. Power/telco installation work will occur Summer 2011. Completion expected Oct 2011.**

Alaska Ground Infrastructure Deployment
Proposed Expansion

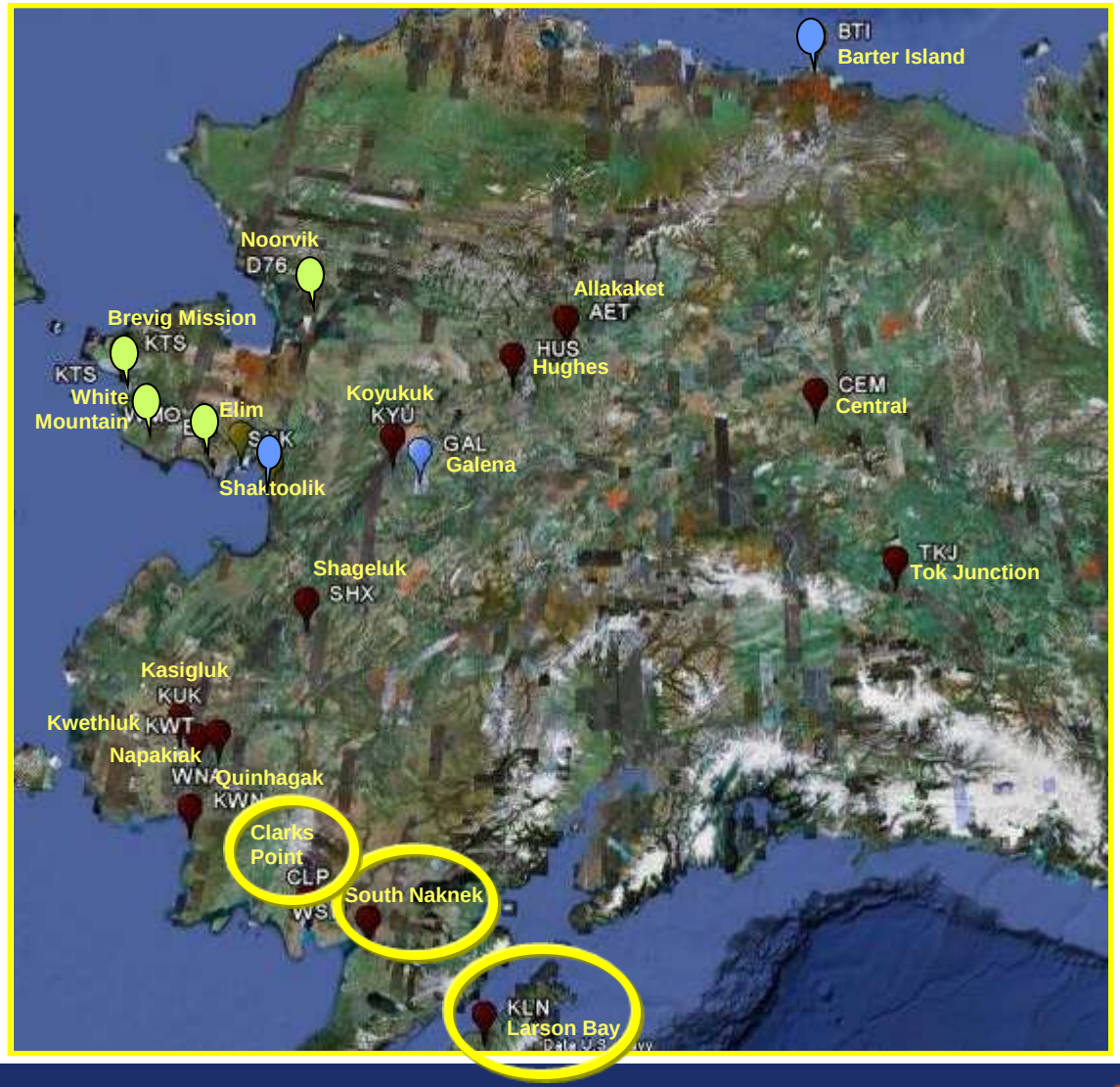


FAA's initial commitment (FY10)

3 additional Service Volumes

IFR Airport Upgrades

Finish SV 326(3), 327(4), and 328(5) - (3 AWOS & 1 RCO)

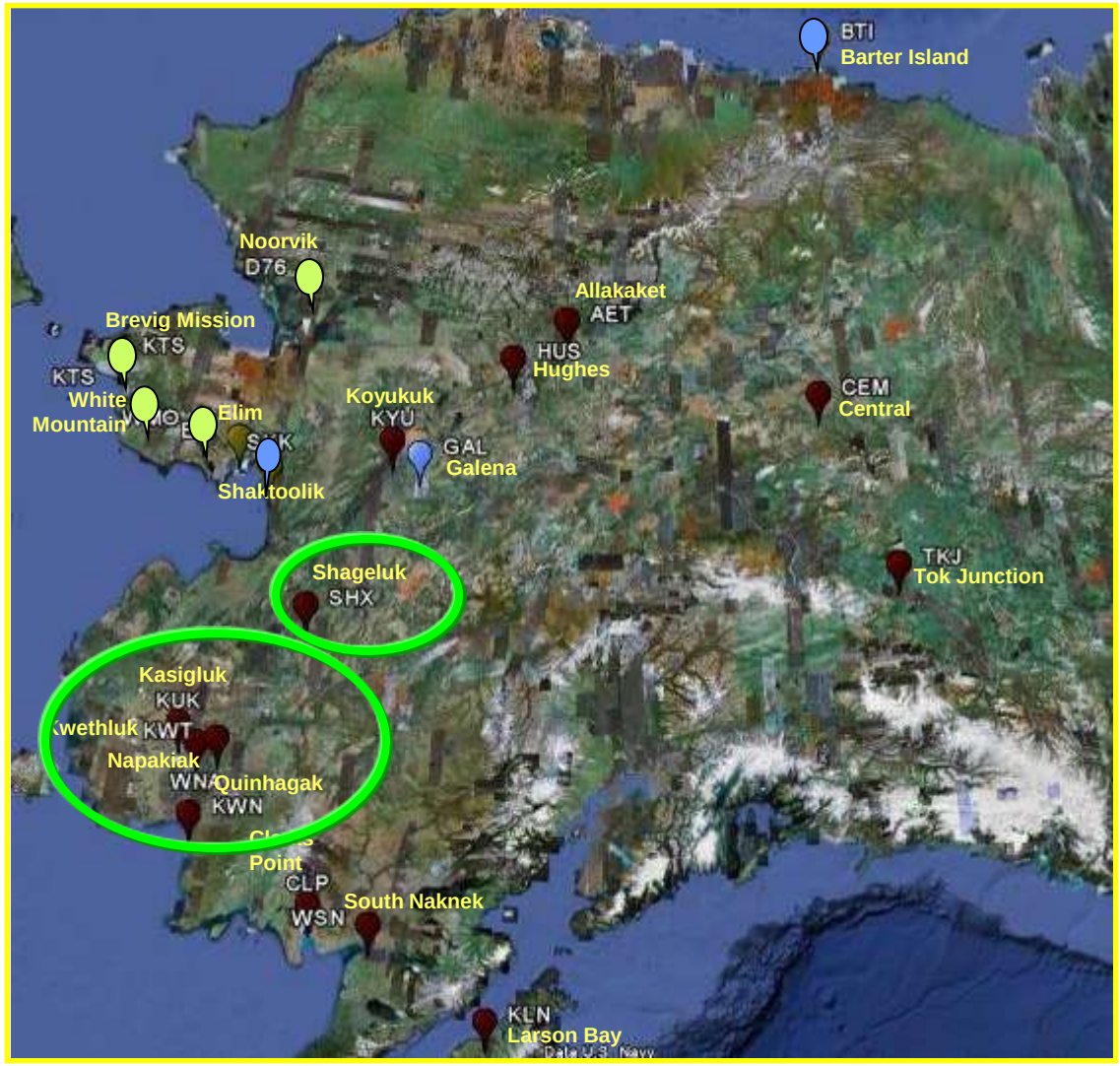


AWOS	Airport Code
Completed	
Barter Island	BTI
Galena	GAL
Shatoolik	SKK
FY 10/11 Installation	
Noorvik	D76
Elim	ELI
Brevig Mission	KTS
White Mountain	WMO
Installation based on equipage	
Hughes	HUS
Allakaket	AET
Central	CEM
Larson Bay	KLN
Kasigluk	KUK
Koyukuk	KYU
Kwethluk	KWT
Napakiak	WNA
Quinhagak	KWN
Clarks Point	CLP
Shageluk	SHX
South Naknek	WSN
Tok Junction	TKJ

RCO	Airport Code
FY 10/11 Installation	
Brevig Mission	KTS
White Mountain	WMO
Installation based on equipage	
Larson Bay	KLN

IFR Airport Upgrades – SV 333(10)

Complete SV 333(10) weather services in (5 AWOS)



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Elim	ELI
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Installation based on equipage	
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Allakaket	AET
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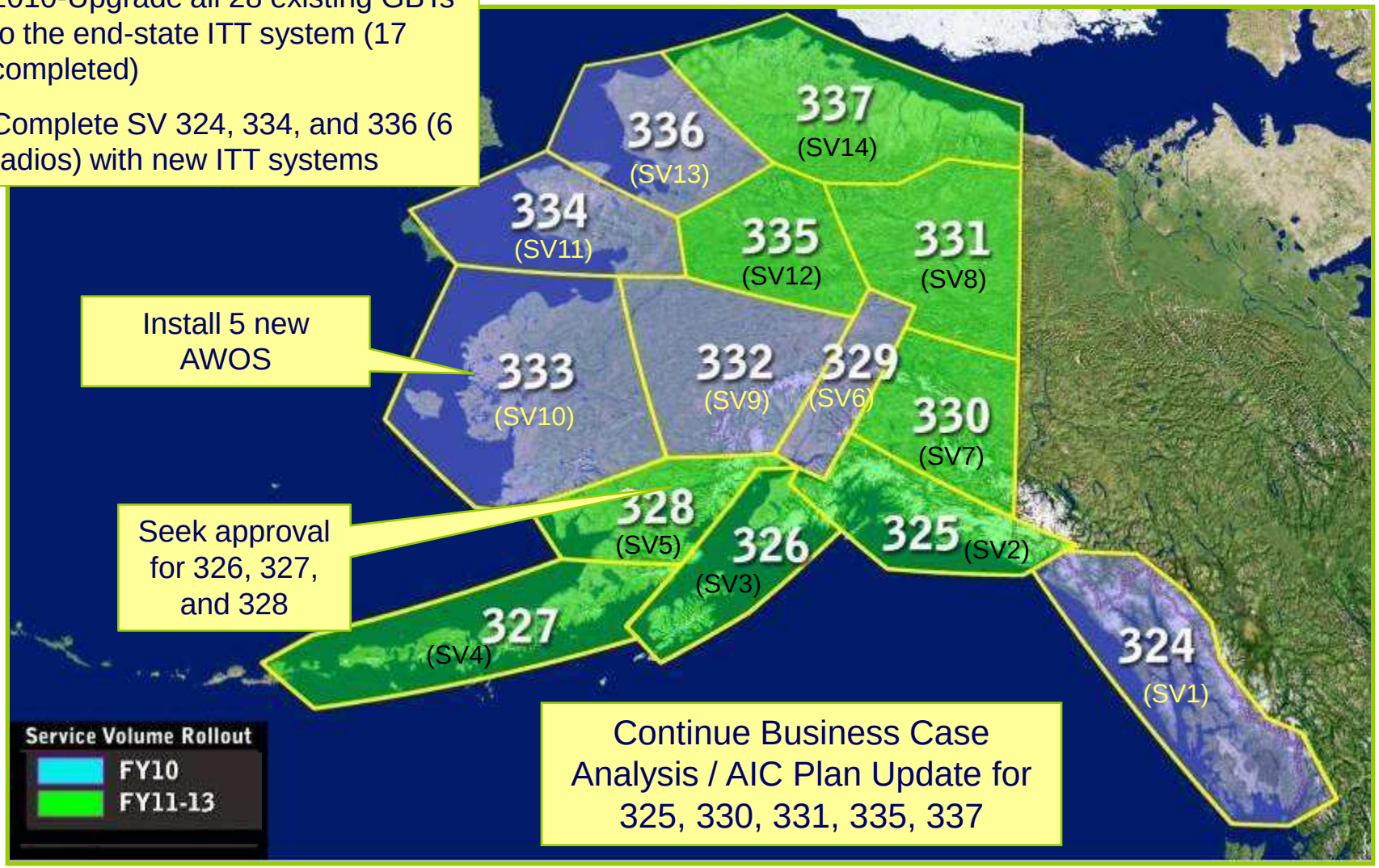
Larson Bay	KLN
Kasigluk	KUK
Koyukuk	KYU
Kwethluk	KWT
Napakiak	WNA
Quinhagak	KWN
Clarks Point	CLP
Shageluk	SHX
South Naknek	WSN
Tok Junction	TKJ

RCO	Airport Code
FY 10/11 Installation	
Brevig Mission	KTS
White Mountain	WMO
Installation based on equipage	
Larson Bay	KLN

Alaska Ground Infrastructure Deployment

2010-Upgrade all 28 existing GBTs to the end-state ITT system (17 completed)

Complete SV 324, 334, and 336 (6 radios) with new ITT systems



Install 5 new AWOS

Seek approval for 326, 327, and 328

Continue Business Case Analysis / AIC Plan Update for 325, 330, 331, 335, 337

Next Steps - Alaska

- **Recommend implementing SBS services (including 3 AWOS/1 RCO) in 3 additional service volumes (SVs) - 326(3), 327(4), and 328(5).**
- **Validate actual benefits and recommend installing 5 additional weather services (AWOS) in SV 333(10)**
- **ATO-Finance for review/concurrence – Jan 2011**
- **Prepare for Executive Council review/approval – Feb 2011**
- **Joint Resources Council (JRC) Decision – Mar 2011**
- **Implementation Plan Addendum with AIC – Apr/May 2011**

Surveillance & Broadcast Services, WSA

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www.adsb.gov

Alaskan Region Airports Division

Federal Aviation Administration

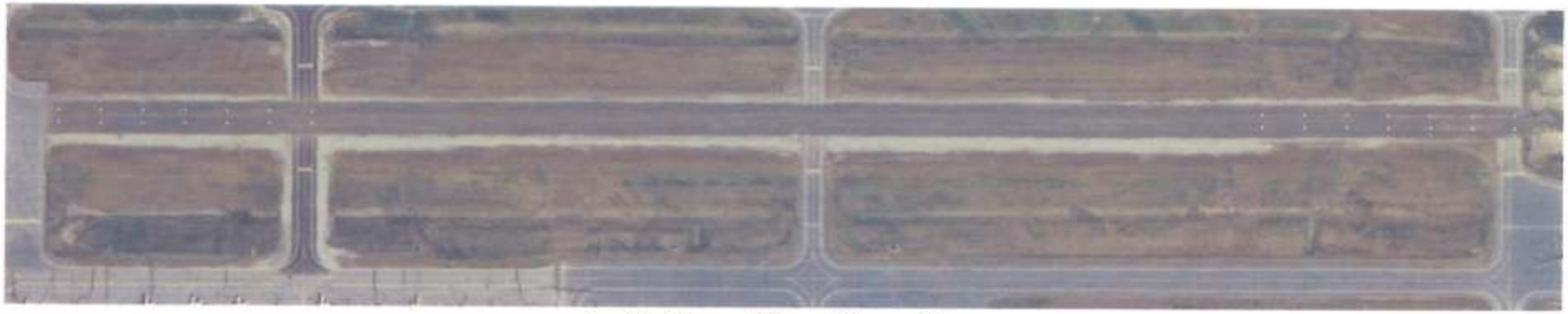
Short Field Markings on Gravel Runways in Alaska

Presented to: Alaska Industry Council

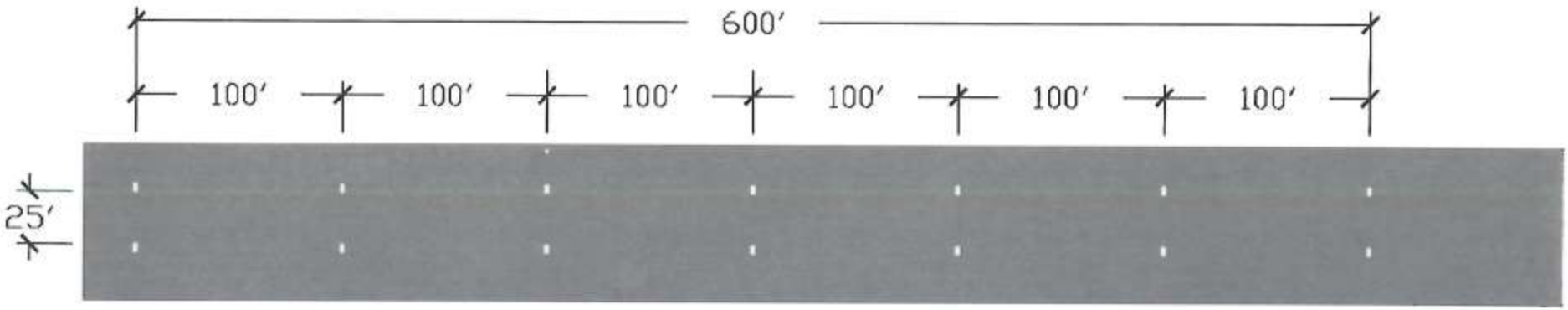
By: Matt Freeman: Project Engineer, Airports Division

Date: December 8, 2010

FAI SKI STRIP 2-20
3500'X75' RW



0 100 200 400 600 800
SCALE IN FEET



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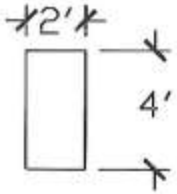
SCALE IN FEET



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES NORTHERN REGION AVIATION DESIGN GROUP		
SHORT FIELD RUNWAY MARKING FAIRBANKS INTERNATIONAL SKI STRIP		
SCALE AS SHOWN	DESIGNED T. HENRY	
DATE 6/2/2010	FIGURE 1	

Project Number: 10-___

REQUEST FOR AIRPORT RESEARCH AND DEVELOPMENT

Title: Development of "Runway End Identification" Marking(s) for Safe Landing Operations on Alaskan Gravel Runways.

Description: Establish a research project to determine a marking pattern(s) that identifies the runway ends of gravel runway for pilots thereby reducing the high rate of general aviation accidents experienced in the Alaska region.

Background: The Alaska Region continues to experience a high rate of general aviation accidents associated with gravel runways. AAL-600's preliminary investigations have led to poor pilot identification of the approach end of gravel runways. In an effort to reduce the rate of accidents, AAL-600 proposed the attached marking pattern for the first 600 feet of the gravel runways as a starting point to develop a unique marking pattern for this type of landing operation. The objective of the research is to enhance pilot visual recognition of the approach end of gravel runways through a specific marking pattern. See attached proposed "Short Field Runway Marking" by AAL-601. This effort is to evaluate other marking patterns.

End Product: A comprehensive report on the evaluation of several marking practices to establish a recommended runway end identification marking pattern for gravel runways.

Suggested Method of Undertaking: Evaluate a new set of marking to identify the start of the runway for gravel runways per the attached sketch suggested by AAL-600 an other marking patterns deemed promising to meet the objective. Determine the ability of pilots to recognize the pattern's size, configuration, and color contrast. Report such findings in this study.

The FAA Technical Center will lead the effort with input from AAL-600 and the Alaska Flight Procedures Office to determine proposed marking patterns, conduct test trials, collect and evaluate the data ,and write a report. This evaluation shall conduct flight test for proposed marking patterns by flying approaches during various daylight periods and conditions, i.e., between the periods of morning till dusk conditions. The FAA Technical Center will coordinate with AAL-600, Flight Standards, and the RMT's Alaska Accident Prevention group and conduct a pilot feedback questionnaire about the perception by pilots of proposed markings. This study is to be conducted at Fairbanks International Airport and to include one or two other Alaskan airport using the same proposed marking patterns.

Suggested Resources: 0.5__ person years, $__0____ contract

Specialist Assigned: George Legarreta, AAS-100, (202) 267 8766; cc: Khalil Kodsi, AAS-100, (202) 267 7553.

Reviewed: Rick Marinelli

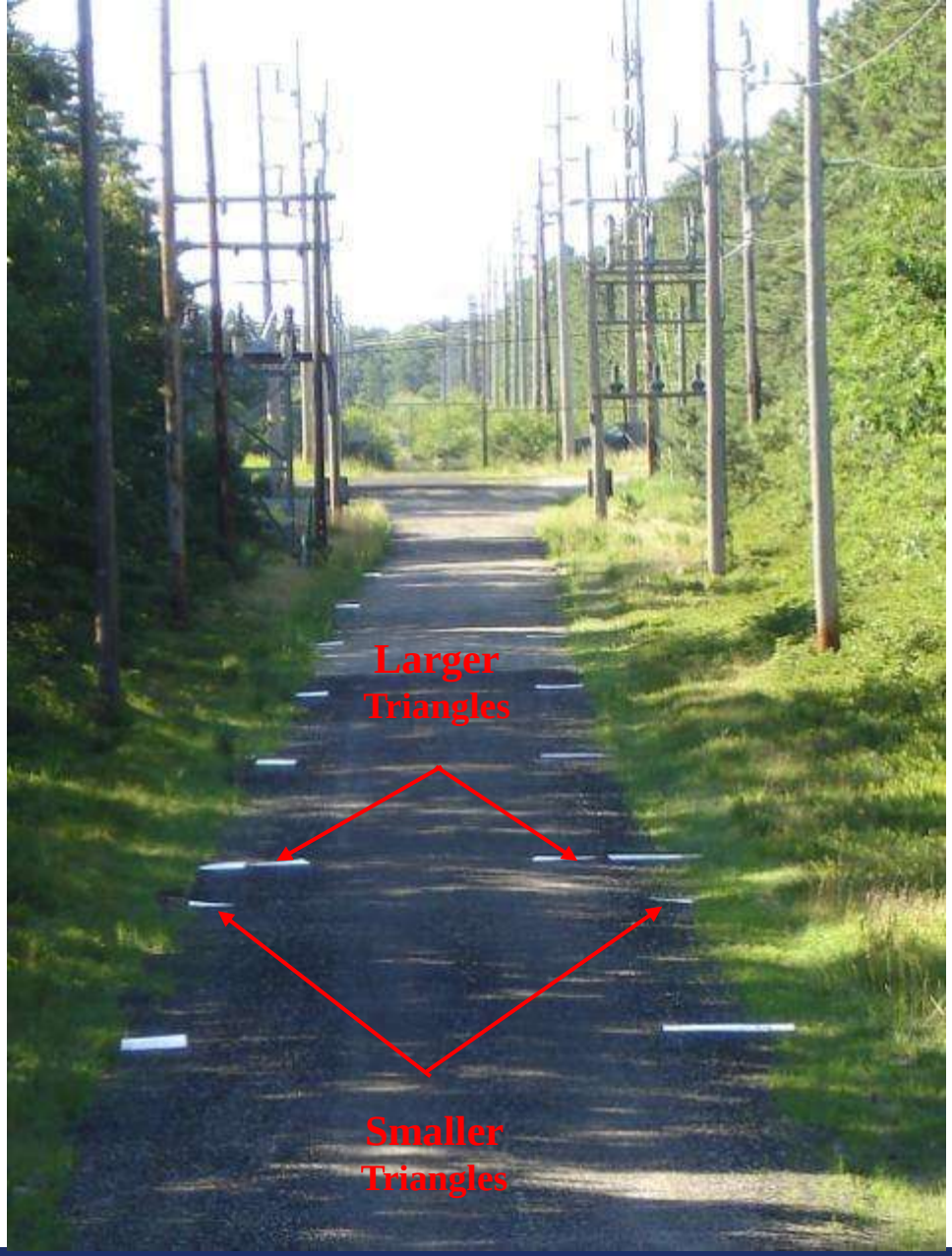
Rick Marinelli, Manager, Airport Engineering Division, AAS-100

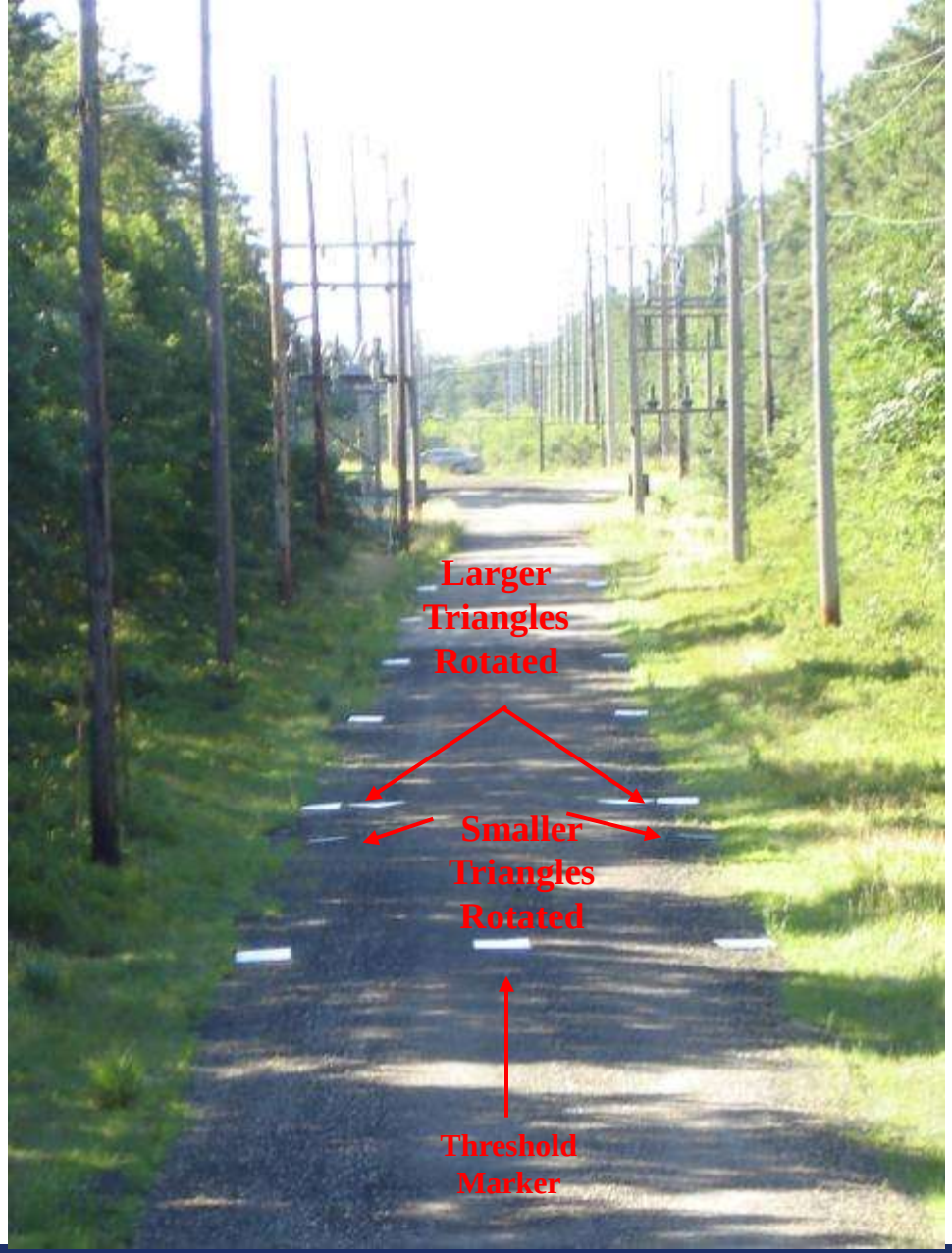
Date of Submittal: 7/29/10 **Revised/Renewed** _____

AAS-2 7/29/30

Short Field Gravel Markings

- **Provide a training tool for pilots to practice takeoff and landings to a simulated 25-foot wide, short gravel runway**
- **Install on gravel runways that meets FAA design standards**
- **Use for daytime VFR conditions**
- **Markings to be painted on the gravel surface**
- **Implement at Fairbanks and/or Anchorage as a test case**
- **After the test, possibly deploy to other parts of the state**


Larger
Triangles
Smaller
Triangles


Larger
Triangles
Rotated
Smaller
Triangles
Rotated
Threshold
Marker


Simulated gravel runway near the Tech Center

Next Step

- **Select runways for demonstration project in Anchorage and Fairbanks**
- **Finalize design after reaching consensus with airport owner, and user groups**
- **Establish process to capture what works, and areas to improve**
- **Prepare and distribute description of runway markings**
- **Deploy Spring 2011**
- **Report back to the Tech Center**

2010 Arctic Aviation Conference success and Arctic Aviation Initiative *(Nils Andreassen)*

Happy Holidays!

Next Meeting:

February 9, 2011

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